Photo by JO3 Lisa Tidsley

The next thing I heard was, "Let it go! Let it go!"

Pickled

By Lt. Katy Crihfield

I lucked out: Only one of our birds was up. The supply ship had supplies to vertrep to all four ships in the battle group, and I was on the schedule to fly that day. We knocked out the carrier and the first of the small-boys with no problem.

I was having a great day. Most of my picks were dead on, and the crewman only had to make minimal calls over the deck. After a lull in the action, we landed, refueled, took off, and rigged to start vertreps to the cruiser. The cruiser was stationed 1,000 yards off the starboard quarter of the supply ship, which meant I would be doing 270-degree (button-hook) approaches for the drops. I had flown that approach before but not often enough to be good. I looked forward to the opportunity to become more proficient, even though there weren't too many lifts to deliver.

It was a typical day around the equator: sunny, hot, humid, and very little wind. What wind there was came about 20 degrees off the port bow of all the ships, at about 10 knots. The wind had little effect on us while we delivered to

the carrier and the first small-boy. Both ships were in the conrep position, and, because we're a tandem rotor, we can operate with winds from about any direction. I say that somewhat in jest. Although the H-46D's tandem-rotor design does allow for more flexibility with wind direction than a tail-rotor helicopter, I was about to find out it doesn't always have such flexibility.

Our ship and the receiving ship cleared us inbound. The first lift consisted of six pallets. We knew we were heavy (we just had refueled), and the heat and humidity decreased our maximum power available. The HAC made sure to get an accurate power check over the deck before we transitioned to forward flight. Our power check was good, and we weren't drooping, but the engines were near their upper torque limit in a high hover.

Photo by JO3 Lisa Tidsley

During the short transit to the receiving ship, the HAC said to me, "Take this nice and slow. You'll have a tailwind until you're over the deck, and you'll probably droop a little when you kick the nose around. Make sure you carry forward airspeed through the turn, and don't end up short."

As we crossed the bow of the cruiser, I started to kick the nose to the left for the approach. I tried to keep the turn in as I continued to aim for the deck. But, I carried too much forward airspeed, and I was too tight to the ship. To prevent overshooting the deck, I needed an aggressive power pull, but I also hadn't gotten my nose around far enough. I only was about 145 degrees through the 270-degree turn I needed. With the large power pull, a heavy load, and still with a tailwind because of my lack of turn, I had put myself in a "power required exceeding power available" situation. The rotor system drooped all the way to 86 percent. If I had made it over the deck, I could have settled the load onto the deck and hovered in ground effect to regain the lost rotor speed. I wasn't that fortunate.

We were drooping to 86 percent over the VLS tubes aft of the flight deck and still descending. I could feel the HAC on the controls, but I wasn't sure if he had positive control of them or not. As soon as I heard him call out how low our Nr was, I immediately stopped pulling up on the collective. Logically, I know when Nr droops, the technique to regain it is to reduce the collective, thus reducing the load on the rotors. However, I couldn't bring myself to push down when all I saw staring up at me through the chin bubble were missile tubes.

The next thing I heard was, "Let it go! Let it go!"

That call coincided with a thud from the back of the aircraft. The crewman had released the load into the water.

We needed a few minutes to regain our composure and to figure out exactly what had happened before we continued with the vertrep. Once we had sorted out everything, we went in for the next pick. Again, we did our power check, and everything looked good. I took the controls, transitioned to forward flight, and started my approach to the ship. As if once wasn't enough, I again pulled too much power as I kicked the nose around, and we started drooping once more. This time, the HAC took the controls, moved the cyclic forward to gain airspeed, and waved us off.

At the debrief, he told us when he had said, "Let it go! Let it go!", he was talking to me and saying to let go of the controls.

It may have been my day to vertrep to the carrier, but it wasn't happening with the buttonhooks to the cruiser. For the remainder of the loads, I flew a straight-in approach from the starboard side of the ship.

What happened? Yes, H-46s aren't known for their powerful engines, but our power check indicated we had the power available to hover out of ground effect with the load attached. However, on my approach, I had a slight tailwind. It wasn't strong, but it was enough to require more power when trying to turn the aircraft while pulling on the collective. Although the HAC made the point before I started my approach, and I tried to follow his advice, I didn't carry my forward airspeed through my turn in the direction of the flight deck. I had lost forward momentum in an out-of-ground-effect hover with a tailwind. I tried to pedal-turn around and back over the deck, which only aggravated the situation.

In retrospect (when everything is always so clear), three things would have helped my approach. First, I should have not been so tight to the ship. I was about 100 yards off the port side, which was why I needed such a tight turn to arrive over the flight deck.

Second, I should have come in more slowly. Finally, as the HAC mentioned, I should have carried my forward airspeed around toward the deck, instead of trying to pedal turn and back over the spot when I came up short. H-46s are maneuverable but still are subject to the force of the winds and atmospheric conditions.

Besides more practice doing buttonhooks for me, the crew also learned from this flight. After we began to droop, the HAC was on the controls, but there was never a "positive, three-way change of controls," as we always brief. I felt him making inputs, but I wasn't sure if he was fully on the controls or just trying to assist me without taking the controls. At the debrief, he told us when he had said, "Let it go! Let it go," he was talking to me and saying to let go of the controls. However, when the crewman heard, "Let it go," he assumed the HAC meant, "Let the load go." The standard order for letting a load drop is, "Pickle the load," but that phrase wasn't briefed or used. Although the crewman did the right thing by dropping the load, it wasn't the HAC's intention.

Everything turned out OK (relatively speaking), but the miscommunication and lack of standard phraseology could have been disastrous.

Lt. Crihfield flies with HC-11.

Not many situations allow you to put your aircraft in extremis and still get away with a miscommunication at a critical moment. There's a reason we have standard phraseology, and why we brief positive change of controls. But, it is actually funny (in a non-humorous way) that this miscommunication actually may have prevented a mishap, rather than caused one. Had the crewchief not "pickled" the load after hearing "let it go," the pilot and copilot easily could have continued their wrestling match for the controls as the helo settled into the side of the ship.—Cdr. Chris Spain, aircraft operations division head, Naval Safety Center.